

---

*FoodReview* (ISSN 1056-327X) is published three times a year by the Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture.

Send questions, requests, and editorial comments to *FoodReview*, USDA, Room 2015-South, 1800 "M" Street, NW., Washington, DC 20036-5831.

Annual subscriptions are \$27.00 to U.S. addresses (\$54.00 foreign). Call toll-free 1-800-999-6779 (weekdays, 8:30-5:00 ET) to charge your order to American Express, Visa, or MasterCard (callers outside the United States, please dial 703-605-6220). Or, order by mail from ERS-NASS, 5285 Port Royal Road, Springfield, VA 22161. Make your check or money order payable to ERS-NASS. Please include your complete address and daytime telephone number. Sorry, but refunds cannot be issued.

The use of commercial or trade names does not imply approval or constitute endorsement by USDA or ERS.

Contents of this magazine may be reprinted without permission.

**Economics Editor:**  
Rosanna Mentzer Morrison  
(202) 694-5411

**Managing Editor:**  
Deana Kussman  
(202) 694-5123

**Art Director:**  
Susan DeGeorge

**Editorial/graphic assistance:**  
Wanda Reed-Rose

## Promoting Food Safety—An Economic Appraisal

Food safety has been much in the news. The past few years have seen some highly publicized outbreaks of foodborne illness, linked to such sources as *E. coli* O157:H7 in hamburger and unpasteurized apple juice, *Listeria monocytogenes* in hot dogs, and *Salmonella* in poultry products. These outbreaks and the resulting publicity have led to a heightened public awareness of food safety risks, as well as new efforts by Government, the food industry, and consumer groups to promote the safety of the Nation's food supply throughout the food system.

Promoting a safe and secure food and fiber system is one of USDA's primary objectives. Several broadly based programs and initiatives are underway to increase food safety. These efforts include strengthening the meat and poultry inspection system, establishing early warning systems to detect and monitor foodborne disease outbreaks, issuing new requirements for product labeling, promoting good agricultural and management practices to reduce microbial hazards in fresh produce, enhancing inspection of imported foods, using irradiation to control microbial pathogens in meat and poultry, and improving surveillance activities to provide better data on the scope and extent of foodborne illness.

This issue of *FoodReview* highlights research underway at USDA and other agencies to improve food safety. USDA's Economic Research Service (ERS) has been collaborating with colleagues in many agencies to provide economic analysis of food safety issues. Crutchfield gives an overview of the new Federal programs aimed at improving the safety of the Nation's food supply. Crutchfield and colleagues at ERS assess the effects of one of these policies (the new Pathogen Reduction/Hazard Analysis and Critical Control Points rule) and show that the benefits of the new meat and poultry inspection system outweigh the costs.

Data from the new "FoodNet" surveys of foodborne illness established as part of the National Food Safety Initiative are used by Frenzen, Buzby, Roberts, and our partners in the FoodNet Task Force to revise our estimates of the costs of foodborne salmonellosis. Majchrowicz discusses new technologies that could increase food safety; more uses for existing processes such as ozone and advancements in newer technologies such as ultra-high pressure offer food processors an array of pathogen treatments. Buzby and Morrison update earlier research on the costs and benefits of using irradiation to prevent foodborne disease. Buzby and Crutchfield report on new rules designed to protect consumers from exposure to microbial pathogens in fruit juice.

ERS research in the food safety area will continue to examine the costs and benefits of particular approaches to improving food safety, thereby helping to ensure that our solutions to food safety problems are cost effective and impose the least burden on consumers and producers.

Stephen R. Crutchfield  
Chief, Diet Safety and Health Economics Branch  
Economic Research Service

---

# Inside...



## Promoting Food Safety

- 2 New Federal Policies and Programs for Food Safety**  
—*Stephen R. Crutchfield*
- 6 Assessing the Costs and Benefits of Pathogen Reduction**  
—*Stephen R. Crutchfield, Jean C. Buzby, Tanya Roberts, and Michael Ollinger*
- 10 Salmonella Cost Estimate Updated Using FoodNet Data**  
—*Paul D. Frenzen, T. Lynn Riggs, Jean C. Buzby, Thomas Breuer, Tanya Roberts, Drew Voetsch, Sudha Reddy, and the FoodNet Working Group*
- 16 Innovative Technologies Could Improve Food Safety**  
—*Alex Majchrowicz*

- 21 Food Irradiation—An Update**  
—*Jean C. Buzby and Rosanna Mentzer Morrison*
- 23 New Juice Regulations Underway**  
—*Jean C. Buzby and Stephen R. Crutchfield*

## Also Inside

- 26 U.S. Firms Invest in Mexico's Processed Food Industry**  
—*Chris Bolling, Javier Calderon Elizalde, and Charles Handy*
- 31 Breastfeeding: Health and Economic Issues**  
—*Jon P. Weimer*